

Natural Resources Commission Involved in Diverse Platte River Efforts

By Steve Gaul

Confused? The Commission is involved with a variety of work related to various reaches of the Platte River and sometimes it may be difficult for the casual observer to keep those efforts straight. The following capsule summaries those efforts and may help you to distinguish one from the other.

Platte River Cooperative Agreement

The Platte River Cooperative Agreement between Nebraska, Wyoming, Colorado and the U.S. Department of Interior provides the framework for a proposed basinwide recovery program for endangered species in the Central Platte River Basin. Developing the needed studies, monitoring, and planning has been the job of a Governance Committee, five subcommittees (water, land, technical, finance and outreach), and an overall coordinator hired for the effort. Staffs from state and federal agencies assist in needed study efforts. In addition, the federal government is conducting a related environmental impact analysis.

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NNRC Becomes A Cooperating Technical Community

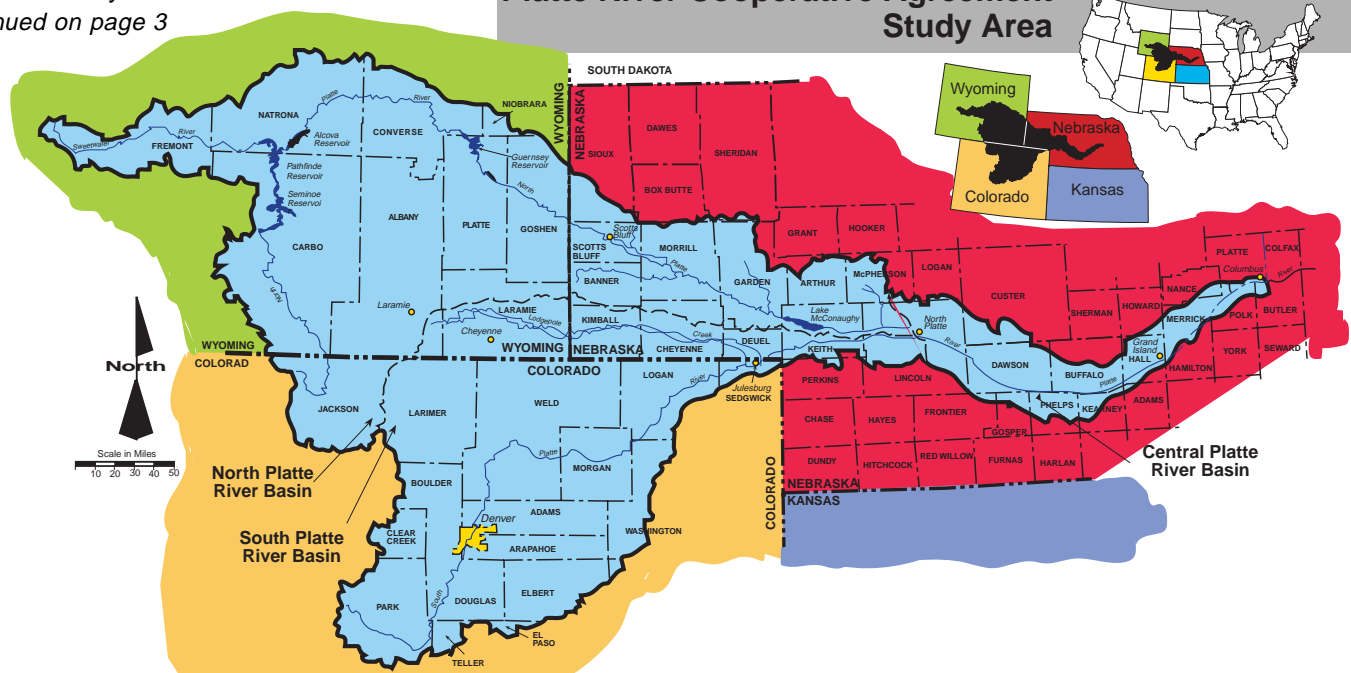
By Brian Dunnigan

On August 16, 1999, the Nebraska Natural Resources Commission signed a Memorandum of Agreement with the Federal Emergency Management Agency to become a **Cooperating Technical Community (CTC)**. FEMA is very interested in using the digital processes that the NNRC has developed over the last couple of years to map flood hazards for rural areas of the state, as a model for the country.

The CTC program evolved from FEMA's 1997 initiative to begin the process of modernizing the country's aging flood hazard map inventory. Nationwide, approximately 45% of the maps are at least 10 years old and 70% are 5 years or older. These older maps may no longer reflect the current flood hazard areas. In addition, there remain flood-prone communities and potential flooding sources nationwide that have never been studied.

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Platte River Cooperative Agreement Study Area



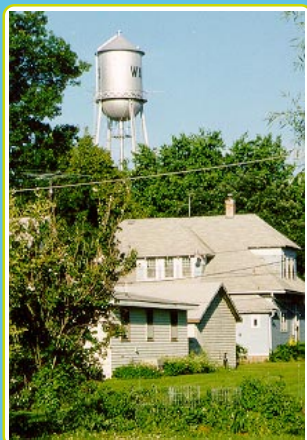
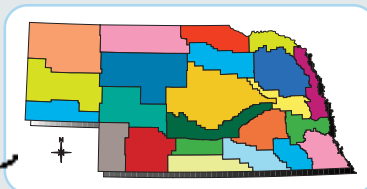
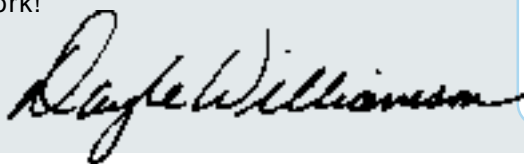
DIRECTOR'S COMMENTS

In 1978 the Nebraska Legislature amended the Natural Resources Districts law to require each district to "*prepare and adopt a master plan.*" The master plans were to be completed and provided to the Nebraska Natural Resources Commission by August 1, 1979. Additional guidance included "*a statement of goals and objectives for each of the purposes stated in section 2-3229.*" That particular section refers to the twelve important purposes districts have by law as they exercise their authority. In addition, the Legislature gave direction that the master plan had to be updated by the district "*in no event less often than once each ten years.*"

By now you are wondering why I am reciting the above history! But as you look at the 1979 date, you recognize that once again in 1999 we have reached the "magic" year for district master plan updates. While some districts have updated their plans earlier than required, a total of 15 out of 23 NRD's are updating their plans starting in 1998 and finishing in 1999. Four out of the 15 remain to be completed.

I have looked forward to reviewing the plans and have found that district boards and management are taking the responsibility seriously. As change comes rapidly, the insight provided for the next decade is very rewarding. This certainly reflects the maturity of the NRD system and the dedication of board members, staff and partners. The documents will be very useful for continued direction and providing constituent advice in relation to district programs.

Nebraskans have taken bold steps to manage natural resources for the past two-thirds of a century. Those that dedicated time to establishing the original soil conservation districts in the late 1930's and through the 1940's had high hopes that all conservation problems could be solved within a matter of a couple of decades. We have learned that was not possible, but as we conclude this century there is no doubt that Nebraska's Natural Resources Districts are well prepared to take on the ever increasing challenges that lie ahead in the next 10 years. I commend the districts for their excellent work!



Report on Nitrate and Nebraska Small Community Water Supplies Completed

By Steve Gaul

"Nitrate and Nebraska's Small Community and Rural Domestic Water Supplies: An Assessment of Problems, Needs and Alternatives" has been completed and copies should be available shortly

through both the Bureau of Reclamation's Grand Island Office or the Commission. The study examines the state's drinking water supply problems related to nitrate and estimates costs to small communities and rural domestic users. It provides small community nitrate monitoring information, examines nitrate related infrastructure expenditures, and notes alternatives for addressing water supply problems. The study was a cooperative effort between the Bureau of Reclamation and the Commission.

Study results indicate that about 37% of Nebraska small community water suppliers have experienced at least one water sample that exceeded the 10 mg/l maximum contaminant level for nitrate. Since 1981 Nebraska's small community water systems have built or are in the process of building 59 water system infrastructure projects that are at least partially related to nitrate contamination. The total estimated cost of those projects is more than \$24 million.

(Platte River Efforts Con't)

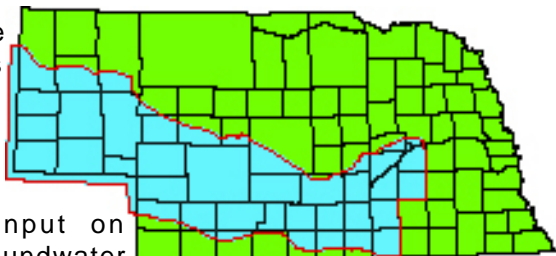
Dayle Williamson, Director of Natural Resources, is Nebraska's representative on the Governance Committee. Jim Cook, Commission Legal Counsel, serves on the Outreach Committee and is also Nebraska's representative on a special Water Action Plan Committee. The Commission is also in the process of hiring an outreach coordinator. Outreach and Governance Committee activities have involved extensive organizational work and solicitation of public input by Commission staff. Some technical input has also been provided to committees to help determine the nature and feasibility of potential water conservation and water supply options.

A state mitigation plan to mitigate, offset or prevent new depletions to flows targeted under the program is also being developed under Commission staff leadership. Governor Johanns has appointed a 23 member Platte River Citizens Advisory Council to monitor the Cooperative Agreement process and to make recommendations concerning the content and viability of a long term program for Nebraska. Commission and Department of Water Resources staff support the activities of the Council. Finally, the Commission is serving as the agency responsible for the state's financial obligations for the Cooperative Agreement. A total of \$700,000 has been appropriated to meet those obligations over a three year period ending in FY 2000.

Platte River Cooperative Hydrology Study

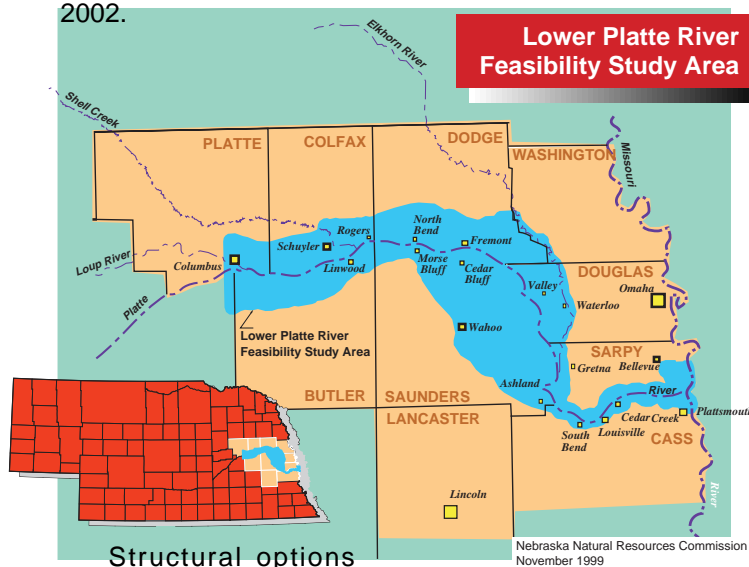
The Platte River Cooperative Hydrology Study is a three year effort to develop an understanding of the hydrological and geological conditions in the Platte Basin upstream of Columbus. The Natural Resources Commission is one of eleven project sponsors of the study. Although some of the information being developed is expected to help Nebraskan's analyze and implement the proposed activities of the Cooperative Agreement, this study is centered on geology and hydrology in Nebraska and is separate and distinct from Cooperative Agreement studies.

The Commission's Survey and Photogrammetry Section is providing extensive input on baseline groundwater elevations. Other Commission staff efforts are expected to assist on river stage and profile analysis, analysis of soils, runoff, recharge and consumptive use, database development/supervision, computer program development and data collection. The Commission also provides office space and support for a GIS database management specialist for the project.



Lower Platte River and Tributaries Feasibility Study

This \$2.7 plus million study to investigate flood damage reduction and water resources problems and solutions in the Lower Platte Basin below Columbus is being led by the U.S. Army Corps of Engineers. The Lower Platte North, Lower Platte South, and Papio-Missouri River NRDs as well as the Commission are major cooperators on the effort, which is scheduled for completion by September 2002.



being examined include Clear Creek Levee Improvement, Union Dike Improvement, Sand Creek Watershed/Lake Wanahoo measures and a Fremont channel cutoff. Nonstructural measures to be considered include: flood insurance, flood proofing, flood warning, floodplain zoning, and evacuation and relocation of structures. The study is also evaluating a variety of concerns related to water quality, land use, and public policy and is closely examining several environmental restoration options.

The Commission is supplying \$125,000 per year in matching funds for the study over a four year period and is also providing \$144,000 in in-kind survey and mapping work over the course of the study. Commission staff are also providing extensive assistance for community flood mitigation planning as well as assistance to other portions of the study.

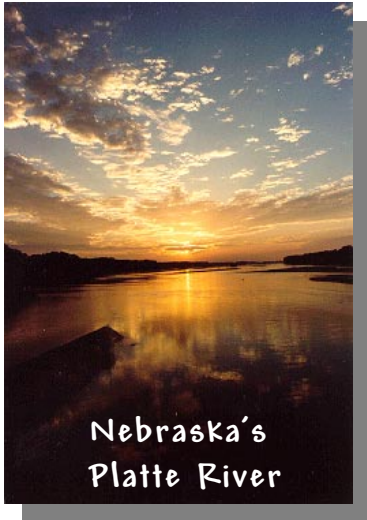
The Lower Platte River Corridor Alliance

The Lower Platte River Corridor Alliance is an umbrella organization of three local and seven state agencies working to: 1) foster increased understanding of the Lower Platte, 2) support local efforts to achieve comprehensive, coordinated land use to protect the river and 3) promote cooperation among organizations to meet

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(Platte River Efforts Con't)

the varied interests along the river. The Alliance addresses the reach of river between Columbus and Plattsmouth. The major project supported by the Alliance to date has been the Lower Platte River and Tributaries Feasibility Study. However, the Alliance is an organization as opposed to a study. It also has a wider mission than the study and has been especially active in providing information and stimulating locally led planning activity related to the river. The Alliance addresses a variety of reasons for protecting the Platte, including: agricultural production, public water supply, recreation, housing development, tourism, wildlife habitat, mining, and fishing. For additional information on both the "Feasibility Study" and Alliance visit www.lowerplatte.nrc.state.ne.us

**Other Efforts**

In addition to work on other Platte River efforts Commission staff have provided some technical assistance related to legal disputes between Nebraska and Wyoming regarding the North Platte River. That has included analysis of modeling results.

(Technical Community Con't)

One of the key objectives of the CTC is to increase local involvement in, and ownership of, the flood mapping process. The CTC recognizes state and local governments that are utilizing new technologies and innovative methods to expedite floodplain mapping.



The NNRC is using the power of Geographic Information Systems (GIS) and products such as the Digital Elevation Models (DEMs) and Digital Orthophoto Quadrangles (DOQs) to accelerate the production of flood-prone area maps. These maps are produced in a fraction of the time and at a fraction of the cost of traditional floodplain maps.

Innovations in Floodplain Mapping

By Brian Dunnigan

Flooding continues to be Nebraska's most costly natural hazard. Since 1990, Nebraska has had 7 flood-related federal disaster declarations affecting 58 counties and resulting in damages in excess of \$160 million.

The single-most important element of any comprehensive hazard mitigation program is hazard identification. For flooding, the delineation of the 1% frequency floodplain (100-year floodplain) provides this identification.

As the state agency responsible for all matters pertaining to floodplain management, the Nebraska Natural Resources Commission (NNRC) has been tasked by the Legislature with accelerating its program of flood hazard identification.

The NNRC has had a state-funded program to provide floodplain mapping to local governments since 1967. Traditionally, detailed floodplain studies were developed by collecting ground survey information, computing hydrology and hydraulics, and delineating the 100-year floodplain using photogrammetric methods. This approach has proven to be very costly and time consuming.

Faced with shrinking state and federal budgets, limited amounts of funding available for mapping through the National Flood Insurance Program, and over half the counties in the state remaining unmapped, the NNRC reevaluated its mapping program 3 years ago. It was decided that alternative approaches utilizing state-of-the-art technologies and innovative methods to rapidly map flood hazards would be pursued.

The NNRC has developed a process using Geographic Information Systems (GIS) and products such as Digital Elevation Models (DEMs) and Digital Orthophoto quadrangles (DOQs) to produce limited-detail flood-prone area maps for rural counties where there is limited existing development and low potential for future development. The cost savings realized through this process are tremendous. Floodplain mapping that traditionally would have taken many people up to a year to complete can now be done by one individual in a few months.

These innovative uses of technology to identify flood hazard areas show great promise for all floodplain studies as more accurate digital data becomes available. The agencies efforts compliment the Federal Emergency Management Agency's recently proposed Flood Map Modernization Plan.

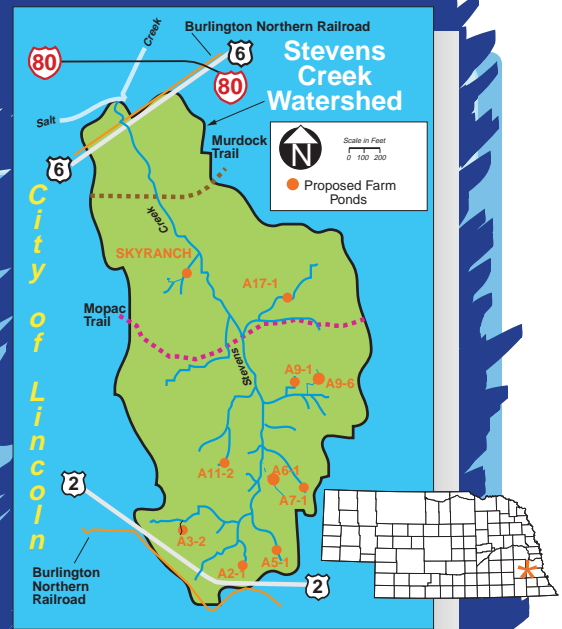


Stevens Creek Project Approved

By Tom Pesek

At its October 28, 1999, meeting, the Commission approved state funding assistance through the Nebraska Resources Development Fund for the Stevens Creek Watershed Project. The project consists of 10 farm ponds ranging from 3.5 to 24.8 acres in size in the upper watershed that will serve to reduce flooding along Stevens Creek, primarily to existing structures/businesses along Highway 6. **The Commission approved a NRDF grant of up to \$1,989,929.60 or 60% of the eligible project costs including feasibility study costs.**

The work funded by the Commission is only one component of the comprehensive project that has been developed for the Stevens Creek Watershed. Other components include land treatment, erosion healing, open space (green belt) establishment in the floodplain and trail work.



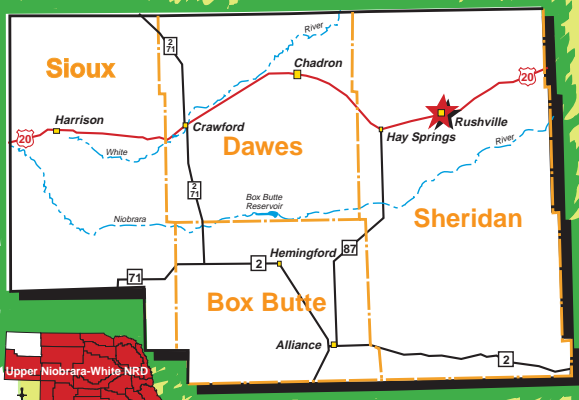
Rushville Proposal Received

By Tom Pesek

The Upper Niobrara-White NRD, in cooperation with the City of Rushville, has submitted a NRDF project proposal for the Rushville Flood Control Project. Dan Wiley, Manager of the NRD, briefed the Commission on the proposed project at its October 28th meeting in Lincoln.

The project will address flooding within the city that results from runoff from the uplands south of the community. Parallel push-up terraces are being considered that will both detain water and divert it around the city. The project's estimated cost is \$350,000.

The project proposal will be reviewed by Commission and other state agency staff during the next few weeks. Commission action to allow the sponsor to proceed with an application and feasibility report is anticipated at the Commission's upcoming meeting on December 8-9, 1999, in Lincoln.



1999 NRC Employee of the Year

The month of October was proclaimed as 1999 State of Nebraska Employee Recognition Month by Governor Johanns. A ceremony was held in the rotunda of the State Capital Building on October 26, 1999, honoring selected state employees and supervisor/managers of the year.

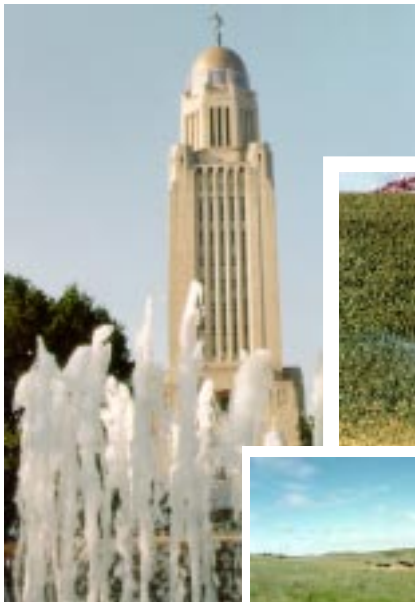
Presented with the agency Employee of the Year Award was Steve Rathje, an employee with twenty-two years of service with the Data Bank Section Section of the agency. Steve began working with the Commission in 1977 after graduating from the University of Nebraska. Over the past twenty-two years computers, software, data management, duties and computer uses have changed dramatically in the world and the Data Bank. When asked what he liked and disliked about his job, Steve answered, *"I get to work with a variety of computer related tasks and I enjoy the low key atmosphere I work in and the people I work with. I'm not a computer person with a pager waiting to be called at an inconvenient time to fix a problem. On the other end, sometimes the funds aren't available to do things the ideal way they could be done and you have to find other ways. When you work on a variety of computer tasks, it's sometimes difficult to know as much about a subject as you would like when you don't deal in that area all the time."*



Lately, working on and replacing non-Y2K equipment, software and related problems has taken up most of Steve's time. He also has spent numerous hours on interactive maps associated with the Commission's website and helps both agency and non-agency personnel with web and network problems.

Steve and his wife Karen live in Seward and enjoy gardening, bowling and watching college football in the fall.

Steve is a very dedicated employee and an asset to the agency. The Natural Resources Commission is fortunate and proud to have an employee like Steve and congratulate him on being selected to receive the Employee-of-the-Year Award.



Dedicated to the long-range management of Nebraska's land and water resources.

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Length of Service Awards Presented



Along with the recognition of outstanding employees during the month of November the state also recognizes employees celebrating 10, 15, 20, 25, 30, 35, 40 and 45 years of service to the state. This year the Agency had 10 employees recognizes with **Length of Service Awards**. Those employees were: Shuhai Zheng, Richard Vollertsen and Randal Strauss for ten years service, Cheryl Byler and Laurel Fredrick for twenty years of service, William Jones, Thomas Pesek and David Rice for twenty-five years of service and Donald Rinne and Alan Ruhge for forty years of service to the state.

STATE OF NEBRASKA
Mike Johanns, Governor



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